

b.) Remarks

Claims 1, 12 and 13 have been amended in order to recite the present invention with the specificity required by statute. Additionally, new claim 73 is presented in order to more specifically recite a preferred embodiment of the present invention. Claims 14, 15, 18-21, 23, 24, 56, 57 and 72 are amended to maintain their dependency. The subject matter of the amendment may be found at page 41, lines 22-25 and Examples 2 and 8 (claim 12), and at page 41, lines 26 to 35, page 33, item (iii) and Example 14 (claims 13 and 73). Accordingly, no new matter has been added.

Claim 72 is rejected under 35 U.S.C. §112, first paragraph, as containing subject matter not adequately described in the specification. In particular, the Examiner is concerned about the public availability of stem cells PA6, OP9 and NIH3T3. In response, Applicants enclose at Tab A information from Riken Bio Resource Center for PA6 and the ATCC for OP9 and NIH3T3 showing that these cells are well-known by, and readily available to those of ordinary skill in the art.

Claims 1, 2, 12-15, 18-21, 23, 24, 26-27 and 72 are rejected under 35 U.S.C. §112, first paragraph, as failing to be supported by an enabling disclosure. According to the Examiner, pre- and post-filed references confirm that the effect of BMP4 depends on the type of stromal cell used and the timing of adding BMP4 to culture. Such rejection has been addressed by the above amendment.

Claims 1, 2, 12-15, 18-24, 26-27, 56, 57 and 72 are rejected under 35 U.S.C. 102(a) as being anticipated by Kawasaki et al. (Neuron, 2000). This rejection is respectfully traversed. Nonetheless, solely in order to reduce the issues and expedite prosecution herein, Applicants simply enclose sworn translations of their Japanese priority applications. Accordingly, Kawasaki is no longer available as prior art herein.

Claims 1, 2, 14, 18-21, 23, 24, 26 and 27 are rejected under 35 U.S.C. §102(b) as being anticipated by Thomson (U.S. Patent 5,843,780) and under 35 U.S.C. §102(a/e) Samarut et al. (U.S. Patent 6,114,168)^{1/}. The Examiner's bases of rejection are set forth at pages 7-8 of the Office Action. These rejections, too, are respectfully traversed.

Thomson discloses differentiation into trophoblast. As the Examiner is aware, a trophoblast is an endodermal cell, whereas the present invention relates to differentiation into an ectodermal cell. In any event, since Thomson does not disclose how differentiation into endodermal cells is carried out, that reference cannot anticipate the steps of the present claims, whether explicitly or inherently.

Samarut teaches a culture medium in which retinoic acid is excluded. However, the medium is used for culturing and preserving ES cells (see, e.g., col. 2, lines 28 et seq.). Thus, there is no process disclosed for inducing differentiation of ES cells. In fact, Samarut adds a neutralizing antibody for retinoic acid to neutralize the differentiation activity of retinoic acid for ES cells (see, e.g., col. 2, lines 64 et seq.).

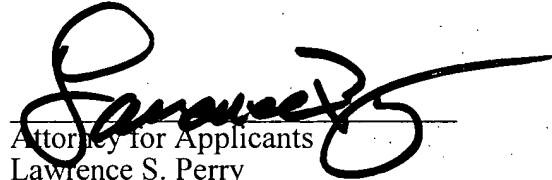
In view of the above amendments and remarks, Applicants submit that all of the Examiner's concerns are now overcome and the claims are now in allowable condition. Accordingly, reconsideration and allowance of this application is earnestly solicited.

Claims 1-2, 12-15, 18-24, 26-27, 56-57, 72 and 73 remain presented for continued prosecution.

^{1/} Applicants respectfully wish to point out that Samarut is prior art under 35 U.S.C. §102(b) due to its PCT publication date.

Applicants' undersigned attorney may be reached in our New York office by telephone at (212) 218-2100. All correspondence should continue to be directed to our below listed address.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Lawrence S. Perry", is written over a horizontal line.

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